

### REMARKS

Claims 1, 4 and 6-8 are amended herein. Claim 1 is amended by deleting the recitation that  $R^2$  is a hydrogen atom. Claims 4 and 6-8 are amended by changing their dependencies. No new matter is presented.

#### I. Response to Restriction/Election

At page 2 of the Action, the Examiner acknowledges Applicants' election of compound 16 in Table 1 in response to the requirement for election of a single disclosed species. The Examiner states that Applicants compounds wherein  $R^2$  is acid or ester are being examined and all other compounds are held withdrawn.

It is Applicants understanding that, in view of the election of compound 16 at Table 1 as the single disclosed species compound, the Examiner has defined the scope of the elected invention as compounds drawn to formula (I), wherein  $R^2$  is  $CO_2R^3$  group and  $R^3$  is a hydrogen atom, a  $C_{1-4}$  straight or branched chain alkyl group or a  $C_{2-4}$  straight or branched alkenyl and all other substituents are as defined in original claim 1. Applicants request the Examiner to confirm that this is correct.

In view of this understanding the present claims are amended by deleting the non-elected subject matter, i.e., wherein  $R^2$  is a hydrogen atom. Applicants reserve the right to file a divisional application directed to the non-elected subject matter.

#### II. Response to Examiner's Query

The Examiner inquires as to what is the meant by X being in "the alpha ( $\alpha$ ) or beta ( $\beta$ ) substitution".

In the case of the alpha designation, X (a halogen atom) is projecting from and down (under) the plane formed by the cyclopentane ring. And in the case of the beta designation, X is projecting from and up (over) the plane. This is common terminology used to define the spatial positions of a particular substituent relative to a ring plane, which is readily understood by those of ordinary skill in the art.

### **III. Response to Claim Objections**

Claims 4-8 are objected under 37 C.F.R. §1.75(c) as being in improper form.

Claims 4, 6, 7 and 8 are amended to depend from any one of claims 1-2, thereby obviating the objection. Claim 5 is canceled thereby rendering objection as to this claim moot.

Accordingly, Applicants respectfully request withdrawal of the objection to the claims.

### **IV. Response to Obviousness Rejection under 35 U.S.C. § 103**

Claims 1-8 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over the combined teachings of EP '242, and JP '749.

Applicants respectfully traverse the rejection and submit that the cited references do not teach or suggest the present invention as a whole.

Specifically, the Examiner tries to fragment the structure of the claimed prostaglandin derivative. Characteristically, any prostaglandin derivative may be identified as having a particular moiety (or moieties) in either or both of the two side chains. The claimed prostaglandin derivatives are no exception. They may be characterized in that the alpha chain contains an interposing sulfur atom (or sulfoxide, or sulfone), an ethynylene group and a carboxyl (ester) group linked thereto and the other (omega) chain contains an ethynylene (or vinylene or ethylene) group, and a terminal cycloalkyl group.

The Examiner determines that the compounds of EP '242 differ from the claimed compounds in not having an ethynylene moiety acid (or ester) containing chain. Thus, the Examiner assumes that a compound of EP '242 (e.g., Compound 21) contains the other chain portion of the claimed prostaglandin derivative. The Examiner further determines that the compounds of JP '749 differ from the claimed compounds in not having a methylene moiety between the sulfur and cyclopentyl ring. Thus, the Examiner again assumes that a compound of JP '749 (e.g., Compound 59 or 60) contains the other chain portion of the claimed prostaglandin derivative.

Based on the foregoing analysis, the Examiner concludes that it would have obvious to one of ordinary skill in the art to modify the teaching of EP '242 to include an ethynylene group (into the alpha chain) in view of the teaching of JP '749. Conversely, the Examiner concludes that it would have obvious to one of ordinary skill in the art to modify the teaching of JP '749 to include a methylene moiety in between the cyclopentyl ring and the sulfur in the compounds of JP '749 in view of the teaching of EP '242. The Examiner bases these conclusions on the assumption that "it would have been prima facie obvious at the time the invention was made to one of ordinary skill in the art to start with the teachings of the cited references, to make applicants' compounds and to expect them to be useful as sleep inducers." Applicants disagree with the Examiner.

Applicants submit that even if one of ordinary skill in the art were to combine the teachings of EP '242 and JP '749, the present invention would not have been achieved. To arrive at the claimed invention, one of ordinary skill must be able to synthesize the claimed compounds based on the teachings of the cited references, i.e., EP '242 and JP '749. Unless there were guidance (explicit or implicit) in the teachings, one of ordinary skill would not be able

to make the claimed compounds. Specifically, the teachings of JP '749 do not point to how the ethylene group in Compound 21 can be converted to an ethynylene group. Further, the teachings do not suggest such a conversion would even be possible. Likewise, the teachings of EP '242 do not point to how a methylene group can be inserted between the sulfur atom and the cyclopentyl ring in Compound 59 or Compound 60. Further, the teachings do not suggest such an insertion would even be possible. JP '749 also fails to teach or suggest the possibility of such an insertion.

In summary, one of ordinary skill cannot or could not have prepared the claimed compounds based on the teachings of EP '242 and JP '749 even if the teachings are supplemented with the contemporary knowledge in the art. Thus, it would not have been obvious to one of ordinary skill in the art to prepare the claimed compounds based on the teachings of EP '242 and JP '749 with a reasonable expectation of success. As indicated earlier, the insertion of a methylene group between the sulfur atom and the cyclopentane ring in a compound such as the compound of formula (IV) in JP '749 would be almost unthinkable for one of ordinary skill in the art in the absence of a clear teaching or guidance in either reference to the contrary.

Accordingly, Applicants respectfully request withdrawal of the §103 rejection.

**V. Response to Obviousness-type Double Patenting Rejection**

Claims 1-8 are provisionally rejected on the ground of non-statutory obviousness-type double patenting as allegedly being unpatentable over the claims of co-pending Application No. 10/493,693. The Examiner states that the claims are not patentably distinct from each other because they generically overlap.

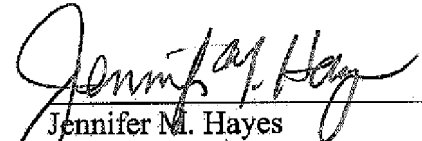
Applicants request the Examiner to hold the obviousness-type double patenting rejection in abeyance.

VI. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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